Institute for Social Research - Zagreb
Centre for Educational Research and Development

EVALUATION OF SYLLABI AND DEVELOPMENT OF CURRICULUM MODEL FOR COMPULSORY EDUCATION IN CROATIA

(Extended summary of research results and elements for the proposal on the methodology for the development of the national curriculum for compulsory education in Croatia)

Zagreb, April 2004.

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I INTRODUCTION

The development of knowledge based society generates new needs both at the individual and the society level (in the area of economy, scientific and technological development, social cohesion, status and the role of the individual as a citizen, personal development and self-realization of individuals etc.) Education, as a prominent factor in creation and transmission of knowledge, as well as in preparation of the individual for work and life in a society has in this context a significant role and new tasks.

In order to enhance the process of transition towards a knowledge based society, the EU (Lisbon summit) gave education an important position in its development strategy, and identified common objectives of the educational and training systems in the member countries. These objectives include a definition of *new* areas of key competences relevant for the knowledge based economy: ICT skills, technological culture, foreign languages, entrepreneurship, inter-personal and social competences, mathematical literacy, basic competences in science, and learning to learn. Cultural awareness is also discussed as one of the key competences necessary for working and living in knowledge based society. (*Working group B, Follow-up of the «Report on the concrete objectives of the education and training systems», Brussels, 2002*)

These decisions were used as a basis for the definition of strategic goals of the educational systems in European countries. Moreover, these strategic goals were further developed and specified, at the European level, as concrete objectives and a detailed work programme. *(Barcelona European Council, 2002)*

Although these decisions serve as mere *recommendations* for educational policies in individual countries, they are of fundamental significance for the development and integration of Europe-wide educational policies, and represent a framework in relation to which national policies are outlined and situated into the European context. *(Education and Training 2010 – The Success of the Lisbon Strategy Hinges on Urgent Reforms, Brussels, 2003)*

Incorporating European strategic goals and adapting to the European educational context demands from Croatia, which perceives a membership in the European Union as one of its fundamental strategic goals, a deeper intervention into the educational system. More so given the fact that the structural organisation and the curriculum had not undergone major changes during the transitional period. Unlike Croatia, the EU member states started adjusting their educational systems to the

needs of the knowledge based society throughout the 1980s, and most of the transitional countries did so throughout the 1990s. Any further delay of the appropriate changes of the educational system, therefore, widens the gap in the area of education between Croatia and the other European countries.

The key task in the process of modernisation of the educational system is a development of the national curriculum, which is the substance of the educational process. Process of change of the national curriculum is a complex and long lasting process, which requires thorough preparations, including detailed analyses of the factors that influence the process of its development and implementation. An analysis of the current state of the national curriculum has a special significance at that. This analysis is significant for a number of reasons: it gives insight into strengths and weaknesses of the current curriculum-system and in that way presents one of the elements important for the development of a new curriculum, it sensitises the teachers, headmasters and pupils for curriculum changes, includes them in the very process of the curriculum reform, and enhances the development of the "curriculum culture" in schools.

II THE CURRENT STATE OF THE NATIONAL CURRICULUM FOR COMPULSORY EDUCATION IN CROATIA (RESEARCH RESULTS)

The research, results of which we outline briefly in this document, was conducted in 2003 on a sample of 2134 subject teachers, 1134 classroom teachers, 2674 8th grade pupils and 120 headmasters from 121 primary schools in Croatia. The aim of the research was to ascertain their opinions on the current syllabi and their implementation, and on the changes in the curriculum and the structure of the compulsory education system.

1. Subject teachers (5^{th} – 8^{th} grade)

The research reveals a number of problems from the viewpoint of planning and development of the national curriculum. We will present only the most significant ones here.

The socio-demographic characteristics of subject teachers show that most of them are women, of older age and with longer work experience. To be more precise, about three quarters of the participants were women, of average age of 45 (and almost a third of them are over 54), and they have, on average, over 20 years of professional experience. Around a half of them have completed 2-year higher education courses and another half have completed 4-year higher education courses (a very small percentage have either high school education or a master's degree). The high percentage of subject teachers with 2-year higher education courses can be explained by the change in teacher education system that occurred between the times the older and the younger generations of subject teachers entered the profession. This is confirmed by the high correlation between age and length of higher education courses (and consequently the level of educational attainment).

Even if we ignore the fact that the feminisation and the average age of the subject teachers indicate social marginalisation of the teaching profession, these characteristics signal a warning that this population's socio-demographic characteristics make its adaptation to increasingly frequent changes and innovations in the teaching profession more difficult, and therefore slow down the process of modernisation of teaching. For example the research results indicate with statistical significance that older teachers less often use information technology, new information resources and tools for lesson preparation and teaching, etc.

The data on ***IT use*** indicate that subject teachers, overall, rarely use IT. Around 60% of them rarely or never use a PC, 70% rarely or never use the Internet while two thirds never use e-mail. In line with that, most subject teachers rarely use IT in the teaching process. They also use it very rarely as a *resource for lesson preparation* (compared to traditional resources such as textbooks and teacher handbooks, which are highest on the frequency-of-use scale of lesson preparation resources, while Internet is at the bottom of the same scale). Data also indicate that most subject teachers rarely use IT as a *tool in the teaching process* (PC, Internet, educational CD ROM, and LCD projector are among the teaching tools that are least used in the teaching process). As was already indicated, the use of IT is correlated with the age of teachers. However, testing for significant difference has shown that use of IT depends also on the urban-rural characteristics of the school, as well as on the region in which the school is located. IT is more often used by the teachers in Zagreb and Zagreb County, Istria and Primorje, than in the remaining regions (central Croatia, northwest Croatia and Dalmatia). It is also more often used by the teachers in Zagreb than by those in smaller towns and villages.

Figure 1: The frequency of PC usage among subject teachers (%)

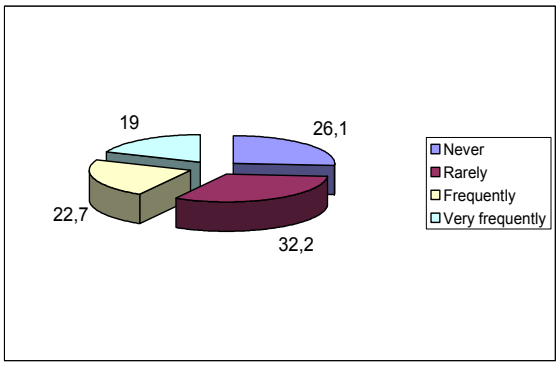
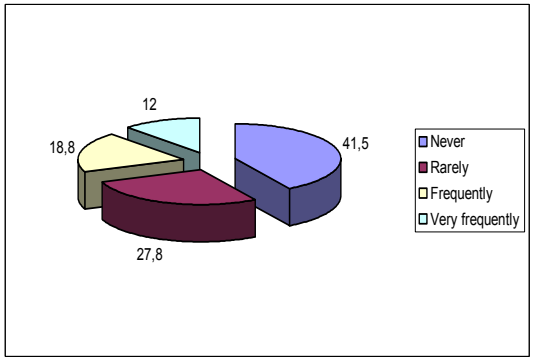


Figure 2: The frequency of Internet usage among subject teachers (%)



Computer literacy and ***IT utilization*** in the teaching process form one of the indicators of the quality of a school. Rare use of IT in lesson preparation and in the teaching itself shows that a policy of quality improvement of the compulsory education should not only equip the schools with computers but also increase the efforts to educate the teachers, especially the older ones and those that work in towns and villages of the less developed regions.

The research results also indicate that the ***current syllabi*** are among the fundamental problems of compulsory education. The following opinions of the programmes are based on the teachers' estimates of quality of the subject syllabi they teach.

Table 1: Subject teachers' estimates of their subjects' syllabi (subject ranks)

	Croatian Lang. and Lit.	Art	Music	Foreign Language	Mathematics	Biology	Chemistry	Physics	History	Geography	Technical Education	Physical and Health Ed.	Religious Education
	Rank												
Up-to-date	8	7	8	6	8	7	6	7	8	7	6	7	5
Overloaded	1	6	2	2	1	1	1	4	2	1	2	4	6
Demanding	2	9	7	7	3	6	5	6	3	6	5	7	9
Interesting	6	4	6	5	7	2	2	3	6	3	7	5	3
Horizontally coherent	9	8	9	9	9	9	9	9	9	9	8	9	8
Vertically coherent	4	5	3	4	5	8	7	8	5	8	9	6	7
Useful	6	3	5	3	6	5	4	2	7	5	4	2	2
Important for the future	5	2	3	1	2	3	3	1	4	4	3	1	1
In need of change	3	1	1	8	3	4	7	5	1	2	1	3	3

Note. Table 1 presents the rank of teachers' estimates of the syllabi characteristics for each subject.
They were derived from the teachers' perceptions for the subject they teach.
Rank 1 being the highest and rank 9 the lowest.
Rank explains the position of the characteristic in relation to all other subject syllabi characteristics.
On all dimensions except for "overload" and "demand" higher rank describes a more positive estimate (e.g. more up-to-date, more interesting, **but** less overloaded and less demanding)

According to the teachers' estimates the weaknesses of the respective subject syllabi are as follows:

Croatian Language and Literature - overloaded, insufficiently horizontally coherent, too demanding, not up-to-date, not interesting enough, and insufficiently useful to the pupils;

Mathematics - overloaded, insufficiently horizontally coherent, too demanding and not up-to-date;

Physics - insufficiently horizontally coherent, insufficiently vertically coherent, overloaded, and not up-to-date;

Chemistry - insufficiently horizontally coherent, overloaded and too demanding;

Biology - overloaded, insufficiently horizontally coherent, insufficiently vertically coherent, not up-to-date and too demanding;

Geography - insufficiently horizontally coherent, overloaded, insufficiently vertically coherent, not up-to-date;

Foreign Language - overloaded and insufficiently horizontally coherent;

History - insufficiently horizontally coherent, not up-to-date, overloaded, insufficiently useful to the pupils, too demanding, not interesting enough, and insufficiently vertically coherent;
Art - insufficiently horizontally coherent, not up-to-date and insufficiently vertically coherent;
Music - overloaded and not up-to-date;
Technical Education- not up-to-date, insufficiently horizontally coherent, not interesting enough, insufficiently vertically coherent, insufficiently useful to the pupils and insufficiently important for the future;
Physical and Health Education - not up-to-date, insufficiently horizontally coherent and overloaded;
Religious Education- insufficiently vertically coherent.

According to the subject teachers' estimates, Technical Education, History and Croatian Language and Literature teachers are least satisfied with their subject syllabi, while Catechism, Foreign Language and Chemistry teachers are most satisfied. One should keep in mind that the teachers' estimates are a result of a variety of factors, including not only the characteristics of the syllabi, but also the teachers' critical attitude, their attitude towards their subject and school in general etc.

If we consider the overall characteristics of the syllabi (i.e. compare the scales of the teachers' estimates of the subject they teach) it appears that the weakest characteristic of all subject syllabi is their inadequate alignment (horizontal coherence) with other subject syllabi (for all subjects it is placed at the bottom of the scale). Teachers also thought that most subject syllabi are insufficiently vertically coherent, overloaded and not up-to-date. For some subject syllabi (Croatian Language and Literature, Mathematics, History and Biology) how demanding they are is also seen as problematic.

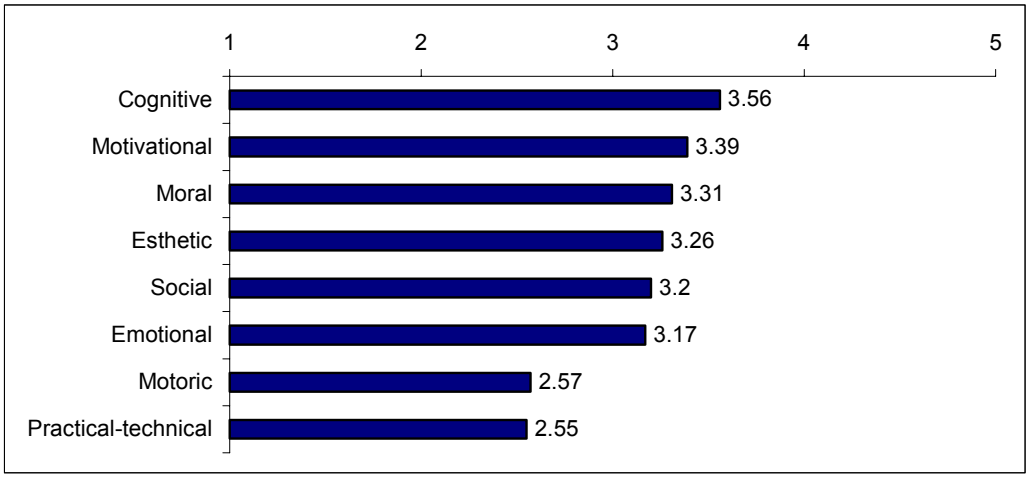
Teachers have also assessed as high *the need to change the syllabi* of their respective subjects (in most subjects it is ranked among the top three characteristics of the given subject). The said characteristics, identified by teachers as weaknesses, indicate what course teachers think the changes should take. However research also indicates that teachers think the key problem of the syllabi is their *insufficient horizontal and vertical coherence*. It is especially significant that all subject syllabi are not aligned (lack of vertical and horizontal coherence) with those of other subjects.
This finding indicates that the syllabi should not only be partially improved (a reduction of content overload and a content update), but ought to be replaced by a new and coherent national curriculum. This means that instead of the current curriculum fragmented into subjects, a coherent

curriculum based on interdisciplinary approach and vertical and horizontal coherence of the subjects should be developed.

The problem of inadequate alignment of different subject syllabi is also indicated by poor cooperation of different subject teachers on the drafting of their own operational teaching programmes, as well as by the fact that the teachers see such poor cooperation as a significant barrier to higher quality teaching.

Along with the issue of coherence of the curriculum the teachers stress the problem of *balance* of the curriculum. The findings on the inclusion of specific ***areas of pupils' development*** in the syllabi indicate that attention is devoted to different areas in the syllabi, depending on the educational goals of the subject. Although on the whole most of the analysed areas of pupils' development are almost equally incorporated in the syllabi, it is still noticeable that attention is focused on the cognitive and motivational areas (cognitive approach to syllabi), while motor and practical-technical areas are not the focus of attention. Development of modern educational systems is based on the concept of *lifelong learning* and *learning society*. These concepts, apart from the cognitive areas, stress the importance of other areas of pupils' development, especially the motivational, the social and the emotional. In that context our research findings raise the questions whether these areas are sufficiently incorporated in the current syllabi, even into the syllabi of the subjects that are seen as responsible for those very areas of development (e.g. social area is less incorporated into the History syllabus then in the Religious Education syllabus although at least a similar level of incorporation should be expected).

Figure 3: Inclusion of specific *areas of pupils' development* in the grades 5-8 syllabi according to subject teachers' estimates



Legend: 1-none, 5-very high

The ***teachers' estimates of time allocation*** for the subjects raise some of the aforementioned issues again, especially the one of the balance of curriculum. They show insufficient time allocation for the very subjects (Art, Music, Physical and Health Education, Technical Ed.) that are most responsible for those areas of pupils' development that are, according to teachers' estimates, least incorporated into the syllabi (motor and practical-technical). Most teachers would allocate more time to the aforementioned subjects. They would then allocate *more time* to the elective subjects, most commonly to IT and Foreign Languages, which indicates that teachers would allocate more time to the subjects whose educational importance is growing in a global context. On the other hand, teachers would allocate *less time* to Catechism, Croatian Language and Literature, Mathematics and History. When estimating time allocation for *their own subjects* most would either *increase* it or leave it as it is. The overall consequence of such estimates is an increase in the weekly number of lessons, across all grades, of 5-6 hours on average, thus raising an issue of length of a school day and pupils' workload. These findings also imply the need to structure the content and methods of education from the vantage point of the national curriculum as a whole, and not from that of individual subjects as separate, disconnected teaching units.

Table 2: Estimation of change of number of lessons for each subject (whole sample) (%)

Subject	-	=	+	Subject	-	=	+
Croatian lang. and lit.	19.4	67.8	12.8	Physics	11.5	78.1	10.4
Arts	3.4	50.4	46.2	History	13.5	79.2	7.2
Music	3.9	56.4	39.7	Geography	9.2	76.8	14.0
Foreign language	2.4	59.8	37.9	Technical Education	8.1	53.0	38.9
Mathematics	15.6	74.0	10.4	Physical and Health Ed.	2.1	52.5	45.4
Biology	6.4	83.1	10.5	Religious Ed.	51.3	46.1	2.5
Chemistry	11.6	80.1	8.3	Elective subjects	7.8	53.1	39.0

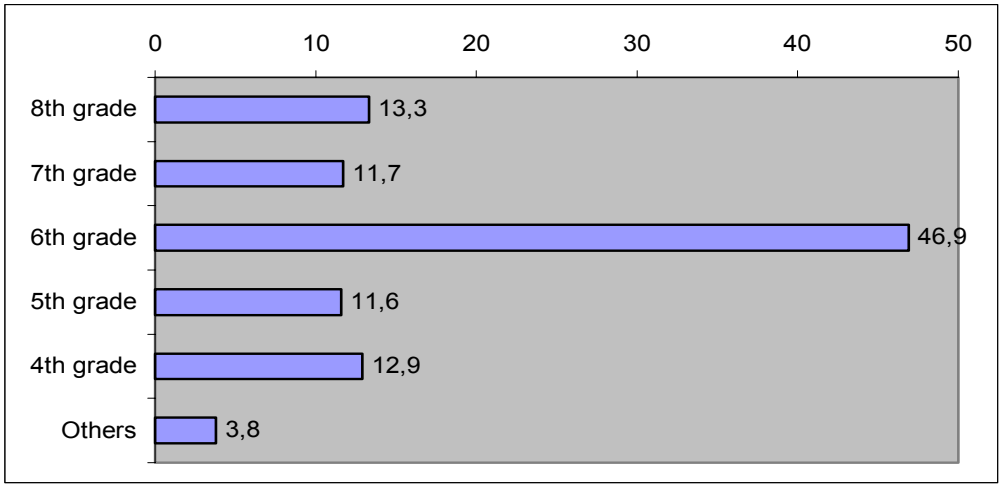
Legend:
-: reduce current number of lessons
=: keep current number of lessons
+: increase current number of lessons

According to teachers' opinion the *content* of the compulsory education curriculum should be *restructured*. The findings show that Religious Education is placed on top of the scale of subjects that should not be taught in school, way ahead of Technical Education, the second of 'unwanted'

subjects. Teachers would however include IT as a compulsory subject, along with Ethics, Foreign Language, Sexual Education, Home Economics and Ecology.

Considering the ***teachers' opinions of the reform of compulsory education*** it is evident that approximately *two thirds of teachers support the changes of its organisational structure*, and as many as *three quarters support the changes of content and teaching methods*. Most teachers also expressed support for *differentiation* (within compulsory education) according to the abilities and interests of pupils, following the sixth grade.

Figure 4: After which grade should pupils be differentiated (within compulsory education) according to their abilities and interests? (%)



Moreover, they identified the differing abilities and motivations of pupils within a single class as a significant barrier (even more so than the material work conditions) to higher quality teaching. However, at the same time approximately half the teachers think that duration of compulsory education should not be extended, but remain at eight years. The research findings concerning subject teachers in general, and those concerning their opinions of the subject syllabi, time allocation and restructuring of the national curriculum subjects in particular, raise the problem of inclusion of the changes suggested into *the current eight-grade system of compulsory schooling and the concept of subject (oriented) curriculum*.

2. Classroom teachers (1st – 4th grade)

According to the research findings, classroom teachers are an almost entirely feminised professional group, middle aged, of longer working experience and the largest percentage of them hold a 2-year higher education degree. Women form an even greater proportion of classroom teachers than is the case with subject teachers (92% compared to 75%). Classroom teachers (average age 43) are, on average, somewhat younger than subject teachers (average age 45), a little less than a half of them are over 40, while 60% of subject teachers fall in that age-band. Similarly to the subject teachers, classroom teachers have 20 years of work experience, on average. The average age of classroom teachers is also reflected in their education: over three quarters of them have a 2-year higher education degree. Due to the changes in the system of teacher education, only the younger generations of teachers have a 4-year higher education degree.

Although the age of classroom teachers is somewhat more favourable than that of the subject teachers, the findings indicate that it is also related to the differences in the teaching methods among classroom teachers. In some aspects of their work (e.g. use of IT or various information resources in lesson preparation, methods of instruction) it is evident that age can be an adverse factor, and that older teachers should receive continuous in-service training so that they would be able to adjust to the new requirements of the job.

Data ***on the use of IT*** by classroom teachers show quite an inauspicious picture. Similarly to subject teachers, classroom teachers, in general, rarely use IT. Almost two thirds said that they never or rarely use a PC, and they use the Internet (a little over a half of classroom teachers never use the Internet) and e-mail (three quarters of classroom teachers do not use e-mail) even less frequently. The calculations of the relevant statistical differences show that data on frequency of IT use are related to teachers' age and rural-urban, as well as regional, location of the school. To be more precise, the frequency of IT utilization drops linearly with increase in age of the teachers; the older they are the less frequently they use IT. However, significant difference testing also shows that use of IT depends on rural-urban characteristics of the school, as well as on the region in which the school is located. It is more often used by teachers in Zagreb and Zagreb County, Istria and Primorje, than in the other regions (central Croatia, northwest Croatia and Dalmatia or Slavonia). Also, it is more often used by teachers in Zagreb than those in smaller towns and villages. *This indicates that it is not sufficient to equip the schools with hardware, as it is also necessary to educate the teachers, especially older ones and those that work in the less developed regions, both*

in towns and villages, how to make use of it. In this context classroom teachers are very similar to subject teachers.

Figure 5: The frequency of PC usage among classroom teachers (%)

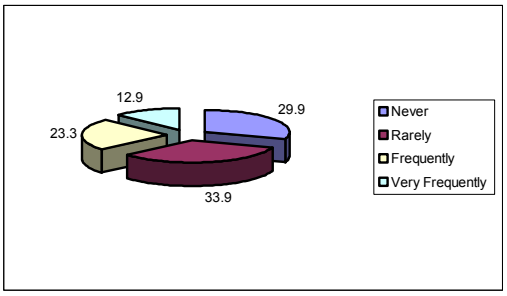
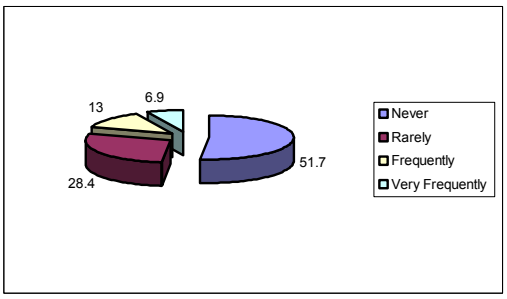


Figure 6: The frequency of Internet usage among classroom teachers (%)



The issue of ***IT use*** arises also when discussing ***resources for lesson preparation and the tools used in the teaching process***, where traditional resources are dominant (textbooks, teacher handbooks, professional literature etc.) while PCs, Internet, educational CD ROMs etc. are used very rarely (they are ranked last both on the scale of *lesson preparation resources* and the one of *teaching tools used in the teaching process*). The research data also indicate that traditional teaching and learning methods are dominant in the lessons (the most frequent activities in all four grades are: teachers' discussions with pupils, pupils expressing their own opinions and discussing them, pupils asking questions about the subject matter). Testing the statistical differences of the use of different methods of instruction with respect to teachers' age, shows that older teachers are more inclined to traditional methods. Younger teachers are more likely use methods of instruction that encourage pupils to learn cooperatively and, organise lessons so as to allow active participation of pupils.

In teachers' opinions ***the syllabi*** are one of the key problems in the first four grades of primary education. According to teachers' estimates the weaknesses of grades 1 to 4 syllabi are as follows:

Croatian Language and Literature - overloaded, not up-to-date and not interesting enough;
Mathematics - overloaded, insufficiently horizontally coherent, not interesting enough, not up-to-date and too demanding (especially in 4th grade);
Nature and Society - not up-to-date, overloaded (especially in grades 3 and 4), too demanding (also for the last two grades) and not interesting enough (in grades 1 and 2);
Art - not up-to-date;
Music - not up-to-date, insufficiently horizontally coherent (in fourth grade only);
Physical and Health Education - not up-to-date, insufficiently horizontally coherent.

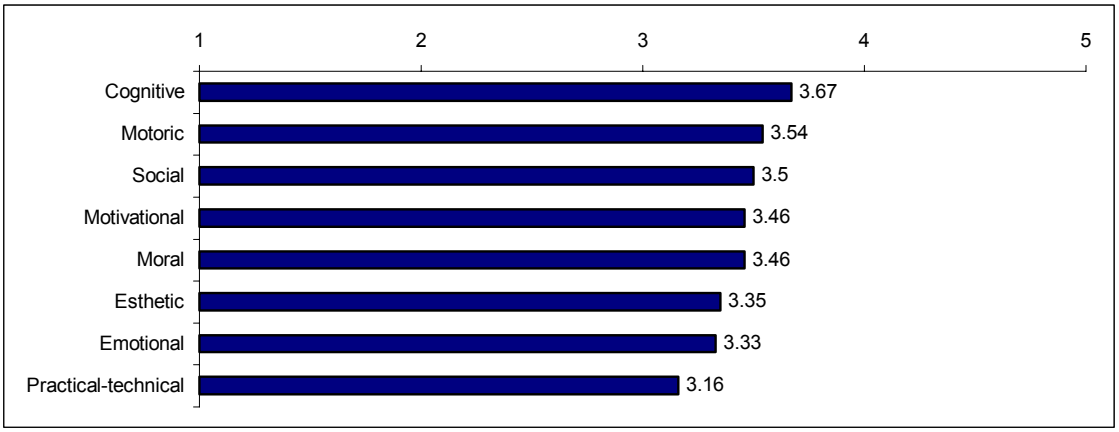
Considering the findings across all subjects it is obvious that teachers' estimates of the syllabi for *Croatian Language and Literature, Mathematics and Nature and Society differ from those for the 'soft subjects' (such as Art, Music or Physical and Health Education)*. Croatian Language and Literature, Mathematics and Nature and Society syllabi appear to have more weaknesses and problematic issues especially in grades 3 and 4, than the 'soft subject' syllabi. In line with the more positive attitude to 'soft subjects' teachers attribute less significance to the need to change these syllabi. It is worrying that, for some subjects, (Mathematics, Physical and Health Education and Music) teachers see the horizontal coherence of their syllabi as a weakness despite the overall classroom-teaching context.

The estimate of the syllabi characteristics shows that overload is one of the weaker characteristics of the syllabi for Croatian, Nature and Society and Mathematics. This is in line with teachers' opinions on *reduction of content* of the syllabi for certain subjects of the first four grades. Data indicate that these are the very subjects, content of which most teachers would reduce, especially in the upper two grades.

Teachers think that the *subjects* of the National Curriculum grades 1-4 ought to be *restructured*. Most of them suggest that Religious Education should not be taught in schools (12% of the participants), but that the following subjects should be included: foreign languages (43% of the participants), IT (26% of the participants) and ecology (6% of the participants).

Teachers estimate that most ***areas of pupils' development*** are equally enough incorporated in the syllabi. It is still noticeable that slightly more attention is devoted to the cognitive area, which indicates a slightly cognitive-biased approach to the syllabi. At the same time, least attention is devoted to the practical-technical area, which indicates a tendency to ignore this area of pupils' development. Comparison with grades 5-8 shows that this is a characteristic of both segments of compulsory education.

Figure 7: Inclusion of specific *areas of pupils' development* in the grades 1-4 syllabi according to classroom teachers' estimates



Legend: 1-none, 5-very high

Teachers say that these very characteristics of the syllabi, namely their content overload and a fast pace of its teaching, are the main ***obstacles*** for higher quality teaching. This again indicates that the main problem of primary education is the overload of syllabi. As another significant obstacle, teachers named differing abilities and motivations of pupils within a single class, and poor adjustment of syllabi to pupils' age. These findings also raise the issue of individualized teaching and differentiation in primary education. Teachers include poor material conditions in the group of factors that significantly obstruct higher quality teaching, although to a lower degree than the other named factors.

And finally, the data indicate that, when asked about ***reform of compulsory education***, most teachers generally support change. Concerning the changes in *organisational structure* of the school system a little less then 60% of the teachers have a positive attitude to them, but the percentage of those opposed or undecided on the issue cannot be neglected. The latter percentage is slightly higher than in the case of subject teachers. More in line with subject teachers, most classroom teachers think that *compulsory education should take 8 years* (54% subject teachers, 56% of classroom teachers). Again, just as subject teachers, most classroom teachers believe that *differentiation according to abilities and interests of pupils* should take place after sixth grade of compulsory education. The issue of this differentiation in primary education was identified as one of the important obstacles to higher quality syllabus implementation, thus further stressing its importance. The largest proportion of teachers (three quarters) believe that it is necessary to change *content and teaching methods* in primary education. Statistical difference relating the socio-demographic characteristics of teachers to their opinion regarding potential changes of the educational system, content and methods shows them to be quite homogenous, i.e. these opinions

are not related to teachers' gender, age, level of educational attainment or to the location of the school they work in.

However, almost two thirds of classroom teachers (same percentage as subject teachers) cannot estimate ***whether their school is ready for the implementation of new syllabi***. Considering the data on teachers opinion of potential primary education reforms and their schools' readiness for accompanying changes it is evident that educational authorities should *intensify communication with schools in order to prepare the teachers for eventual changes*, and thus fulfil a key prerequisite for successful implementation of those changes.

Figure 8: "Do you think that the reform of the educational content and methods is necessary in Croatian compulsory education?"

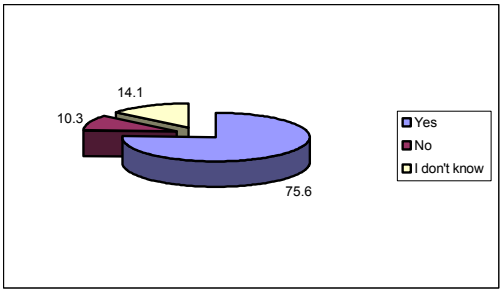
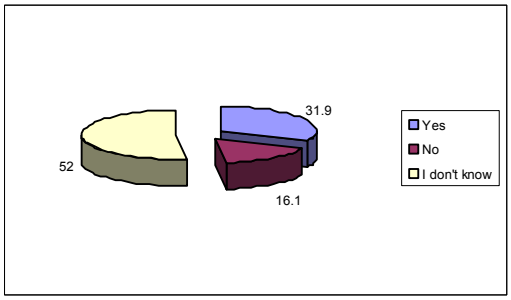


Figure 9: "Is your school prepared for implementation of new syllabi?"



3. Pupils

Pupils' evaluations of individual subjects

Croatian Language and Literature

The participating pupils have evaluated Croatian Language and Literature as the least interesting of all subjects. On the scales of comprehensibility and difficulty it is also ranked relatively low. This is confirmed by its relatively high position on the scale of least liked subjects. As the reason for such evaluation they most often cite its difficulty and incomprehensibility. On the other hand, alongside Foreign Language and Mathematics, pupils clearly recognise the present usefulness of Croatian Language and Literature, and its importance for the future. Over half of the pupils agreed that they have to invest a lot of effort to master the subject matter (based on that percentage Croatian Language and Literature occupies the third position overall). Furthermore half of the pupils think that too much material is taught in Croatian Language and Literature lessons, and according to this estimate Croatian Language and Literature stands out from the rest of the subjects. On the other hand, a relatively small number of pupils think that they have an influence over the teaching process, or the choice of topics and the methods of instruction in the Croatian Language and Literature lessons. The number of pupils who feel motivated to learn more about the topics covered in lessons is also extremely small. On the scale evaluating the integration of the Croatian Language and Literature syllabus with the content of other subject syllabi it is positioned around the middle.

Pupils do not spend as much time studying for Croatian Language and Literature lessons as would be expected from their evaluations of its difficulty, comprehensibility and the effort required. Even though it is considered a relatively difficult subject requiring a lot of effort to master the subject matter, most pupils (about 60%) spend up to an hour a week studying it at home, thus placing it in the middle of the scale of hours per week spent on study for particular subjects.

Finally, Croatian Language and Literature is positioned relatively low on the scale of favourite subjects, mostly for the reasons of content and associated educational activities. Croatian Language and Literature takes the fourth place on the scale of the least liked subjects. The most common reasons for such choice are the fact that it is not interesting, that it is difficult, incomprehensible, loaded with too many facts and the dislike they have of the subject's teachers.

Art

Art is placed close to the middle of the scales based on evaluations of how interesting and how comprehensible it is. Pupils perceive it as a relatively easy subject (only two other subjects are perceived as easier), but place it at the bottom of the scale based on its present usefulness and importance for the future. They are not especially burdened by Art lessons – an extremely small number of them thinks that they have to invest a lot of effort to master the subject matter, or that too much material is taught in its lessons. This is confirmed by the fact that 90% of the pupils spend up to one hour a week preparing for its lessons. They also think that the Art syllabus is not integrated with the syllabi of similar subjects, and the number of pupils enticed by the Art lessons to seek further information is extremely small. A somewhat greater percentage of them think that they have an influence over the teaching – the choice of topic (about 15%) and especially the teaching method (about a quarter of the pupils). Art is positioned relatively high on the list of favourite subjects – it is in the fourth place, and the most cited reasons for such choice are the individuals' interest in the subject matter and the fact that it is undemanding. Finally, a very small number of pupils name Art as the subject they like least.

Music

Pupils do not find Music particularly interesting, and their evaluation of its comprehensibility places it around the middle of the scale. They find it neither particularly difficult, nor particularly useful, nor important for the future. An extremely small percentage of pupils think that they have to invest a lot of effort to grasp its syllabus material, but a somewhat greater percentage (over 10%) thinks that too much material is taught in Music lessons. Preparations for music lessons take relatively little of their time; over 90% of them spend up to one hour a week studying for it. A few pupils feel enticed by the Music lessons to seek further information, and a few can see its syllabus material as integrated with the syllabi of other subjects. Slightly more of them think that they have an influence over the choice of topics and methods of instruction, but those percentages are still relatively small. The percentage of pupils who chose Music as their favourite subject is very low, and the most frequently cited reason for such choice is the individuals' interest in the subject matter. There are also very few of those who chose Music as their least liked subject, and the most common reasons given is that they do not find it interesting, and they dislike its teachers.

Foreign Language

Pupils find Foreign Language interesting and they clearly recognise its usefulness and future importance – on the scale of how interesting a subject is, it takes second place, and on the scales of usefulness and future importance it takes the first place by far. However, they also find it relatively difficult and incomprehensible – it is positioned in the lower parts of the scales based on these two evaluations. Such perception is supported by a relatively large percentage (about 40%) of those who think they have to invest a lot of effort to master the subject matter, but a lot smaller percentage of them (about a quarter) think too much material is taught in its lessons. More than a half of the pupils spend up to an hour a week studying for Foreign Language lessons, but a relatively large percentage of them study for those lessons between one and three hours per week. About one fifth of them are motivated by the lessons to engage in further study and find more information, but the percentage that sees it as integrated with other subject syllabi, or feel that they can influence the teaching is relatively small. English Language takes the third place on the scale of most liked subjects, mostly because it is perceived as interesting. On 'the least liked' scale it is in the lower part, and most of those that do not like it say that it is difficult and incomprehensible.

Mathematics

Based on the evaluation of how interesting it is Mathematics is placed at the bottom part of the scale. Furthermore it is perceived as less comprehensible and most difficult of all subjects. This is confirmed by the time spent studying and preparing for Mathematics lessons – 40% of pupils report they spend up to an hour per week, another 40% spend between one and three hours a week, and a further 20% spend over three hours a week in preparation for its lessons. These percentages are higher than in any other subject. Furthermore, of all subjects, it is Mathematics that has the largest percentage of pupils (about 60%) who say they have to invest a lot of effort to master the subject matter, and a relatively high percentage (about one third) of those who think that too much material is taught in its lessons. Despite such evaluations of its difficulty, comprehensibility, associated workload, and a relatively large amount of time spent preparing for lessons, pupils recognize the present usefulness of Mathematics and its importance for the future – based on those evaluations it is in the top of the scale, right behind Foreign Language. A relatively small percentage of pupils are motivated by Mathematics lessons to seek further information, and a few of them think that they have an influence over the teaching process. But a little more than a third of them think that the syllabus material is integrated with the syllabi of similar subjects. Based on the frequency of being named as the favourite subject, Mathematics is placed approximately in the middle of the scale,

with the most common reason for such choice being the fact that it is interesting. It is in the overall second place as the least liked subject, and almost half of those that name it as their least liked subject report its difficulty and incomprehensibility as their main reason.

Biology

Compared to other subjects, pupils find Biology to be very interesting, relatively comprehensible and moderately difficult. It is in the middle part of the scale based on the evaluation of its usefulness and future importance. Half of the pupils spend up to an hour a week preparing for its lessons, with the other half spending up to three hours a week or even more. A little more than a quarter of the pupils think that they have to invest a lot of effort to master the subject matter, as well as that too much material is covered in lessons. Those very lessons, however, motivate about a quarter of the pupils to seek further information, and a relatively high percentage of them see that the subject is conceptually integrated with similar subjects. A relatively small number of pupils, on the other hand, think that they have an influence over the teaching process – the choice of topic and the teaching method.

Biology is placed at the central part of the scale, based on the frequency of being chosen as the favourite subject. More than half of the pupils whose favourite subject is Biology cite the fact that it is interesting as their main reason. It is also in the middle part of the scale based on the frequency of being chosen as the least liked subject, the most common reason for such dislike being the teachers.

Chemistry

Relative to other subjects, Chemistry is perceived as uninteresting, incomprehensible and difficult. Also, compared to other subjects, pupils do not think it is especially useful or important for the future. It is chemistry that has the largest percentage of pupils who say they have to invest a lot of effort to master the subject matter, and about a third of the pupils think that too much material is taught in the lessons. Such evaluations of its difficulty and the effort required to understand it are supported by the estimations of time spent studying and preparing for its lessons, which place Chemistry among the top three ‘time consuming’ subjects – a little more than a third of the pupils spend more than one hour per week preparing for Chemistry lessons. Chemistry is also most commonly cited as the least liked subject, the main reasons for such choice being the perception of it as difficult and incomprehensible.

A relatively low percentage of pupils are motivated to seek further information regarding the subject after lessons, and equally few of them think that they have an influence on the teaching process. A half of the pupils however perceive Chemistry as conceptually linked to similar subjects.

On the scale of favourite subjects, Chemistry is placed at the bottom end, and those that name it as their favourite subject most frequently do so because they find it interesting.

Physics

Based on the evaluation of how interesting it is Physics is placed at the lower part of the scale of compulsory subjects. Pupils see it as relatively incomprehensible and difficult, and based on the evaluations of its usefulness and future importance it is placed close to the middle positions. About a half of the pupils think that they have to invest a lot of effort to master the subject matter, and a little more than a quarter think that too much material is taught in the lessons. In accordance with such evaluations, a little less than a half of the pupils spend more than an hour a week preparing for its lessons. The percentages of those who think that they have an influence over the teaching process and those who are motivated to seek further information after lessons are relatively low. However, Physics is the subject that the highest percentage of pupils (half of them) sees as conceptually integrated with similar subjects. Physics is placed in the middle part of the scale based on pupils' choice as their favourite subject, and half of those who named it as their favourite say that they did so because it is interesting. Physics is in the third place of on the scale of the least liked subjects, with the main reasons for such choice being its difficulty and incomprehensibility.

History

Relative to other subjects History is approximately in the middle of the scale according to all five categories. Approximately 40% of the pupils think that they have to invest a lot of effort in order to master the subject matter, and about a third of them think that too much material is taught in the lessons. The evaluations of the effort needed to master the subject matter are further supported by the estimations of the time spent preparing for History lessons, estimations that place History among the top three 'time consuming' subjects – more than half of the pupils estimate that they spend more than an hour a week on it, and about 15% of those estimate that they spend more than three hours a week on it. About a quarter of the pupils are motivated by History lessons to learn more, but only a few think that they have an influence over the choice of topic or the teaching method. History takes second place as the favourite subject, and the primary reason for that is the

fact that pupils find it interesting. It takes the fifth place among the least liked subjects, and those that chose it as the least liked subject most often say that they did so because it is not interesting.

Geography

Geography is positioned in the upper part of the scales, based on pupils' evaluations of how interesting, comprehensible, difficult, useful and important it is. A quarter of the pupils think that too much material is taught in Geography lessons, and a little less than 30% say that they have to invest a lot of effort to master the material from its syllabus. About a fifth of the pupils feel motivated to gain further knowledge following Geography lessons, and a quarter of them see Geography as conceptually integrated with similar subjects. A relatively small percentage of pupils think that they have an influence over the choice of topic and teaching method in Geography lessons. About a half of the pupils spend up to one hour a week studying for those lessons, with the remaining half spending over an hour a week doing that. Geography is close to the middle of the scale of being chosen as the favourite subject, and the main reason pupils prefer it to other subjects is the fact that it is interesting. In the ordered list of least liked subjects, Geography also takes the middle position, with the most common reason given for such choice being the teachers.

Technical Education

Relative to other subjects Technical Education is perceived as uninteresting, moderately comprehensible, difficult and not especially useful or important for the future. Most pupils, more than 80% of them spend up to an hour a week studying for its lessons. Between 10% and 20% of pupils think that they have to invest a lot of effort to master the subject matter of Technical Education and that too much material is taught in the Technical Education lessons. Similar percentages of them feel motivated by the Technical Education lessons to seek further information, and see the connection between the Technical Education syllabus content and that of the similar subjects. In the same vein, a relatively small number of pupils say that they have an influence over the teaching process. Technical Education is the least commonly chosen as the favourite subject, out of all compulsory subjects, and it takes an approximately middle position on the scale of least liked subjects. About two thirds of the pupils say that they like it the least because it is not interesting.

Physical and Health Education

Physical and Health Education is considered the most interesting, the most comprehensible and the easiest of all subjects. Evaluation of its future importance places it in the fifth place, and that of its present usefulness in the third. Such evaluations are supported by its overwhelmingly frequent choice as the favourite subject – about a quarter of all pupils chose Physical and Health Education as the subject they like the most, with the most frequently cited reasons being the subject content and associated activities, as well as the flexibility of the teaching. At the same time, very few pupils chose it as their least liked subject. It is this subject that most pupils feel they have an influence over the teaching process for – over a quarter of them feel they have an influence over the choice of topic and methods of instruction. Pupils do not see Physical and Health Education as a particularly demanding subject – a very small percentage of them say that they have to invest a lot of effort to master the Physical and Health Education subject matter or that too much material is taught in the lessons. 90% of the pupils spend up to an hour a week preparing for Physical and Health Education lessons. Percentage of those who see it as conceptually connected to other subjects is negligible, and the percentage of pupils who are motivated to learn more after the lessons is also small.

Religious Education

Based on the evaluation of how interesting it is, Religious Education is placed approximately in the middle of the subject scale. Compared to other subjects pupils see it as comprehensible and easy. Based on how useful they see it for the present and how important for the future, it is again close to the middle of the scale. They do not find it an exceptionally demanding subject – 90% of them spend up to an hour a week preparing for Religious Education lessons, relatively few of them say that they have to invest a lot of effort to master its subject matter, and slightly more of them think that too much material is taught in the lessons. A small percentage of them perceived the Religious Education subject matter as related to that of other subjects, whereas a greater percentage of them think that Religious Education teaching process is flexible – about 20% think that they have an influence over the choice of topic and the teaching method. Based on the frequency of being chosen as the favourite subject, Religious Education is placed at the bottom end of the scale, and the reasons for such choice are equally the fact that it is interesting, that it is easy, that its content and educational activities are interesting, and it has good teachers. On the scale of least liked subjects Religious Education takes the very last place – very small number of pupils said that it is their least liked subject.

Pupils perceptions of school subjects on five dimensions and of time spent fulfilling the requirements of each subject

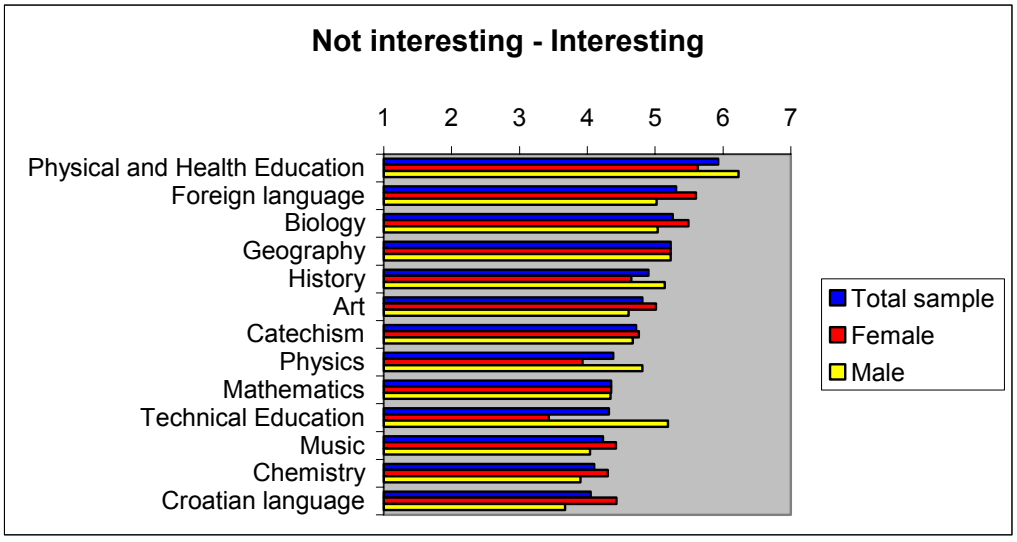
Pupils assessed each of the subjects on the seven-point scales according to several dimensions relevant for their perception of curriculum. They also estimated the time they spend on studying and preparing for each subject weekly. Those results are briefly presented in the previous section, which summarizes all measured aspects of subject perception for each of the subjects separately.

The figures below present pupils' assessments of all school subjects **on** each of the following dimensions:

- not interesting – interesting;
- incomprehensible – comprehensible;
- difficult – easy;
- useless for current life – useful for current life;
- not important for future life – important for future life.

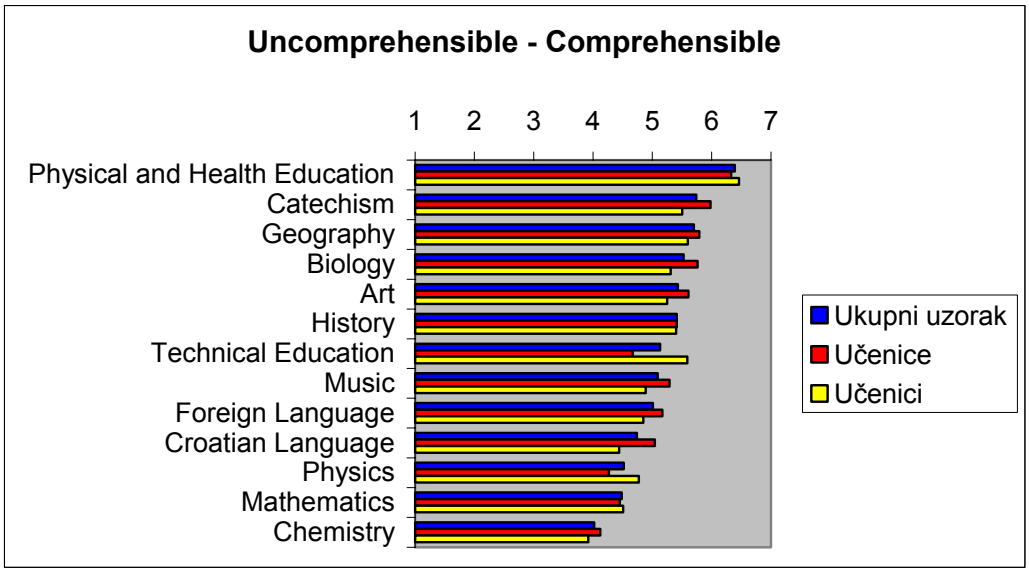
Furthermore, we have also presented pupils' perceptions of time needed to fulfil the requirements of each subject per week.

Figure 10. Pupils' perceptions of school subjects according to the dimension «uninteresting – interesting»



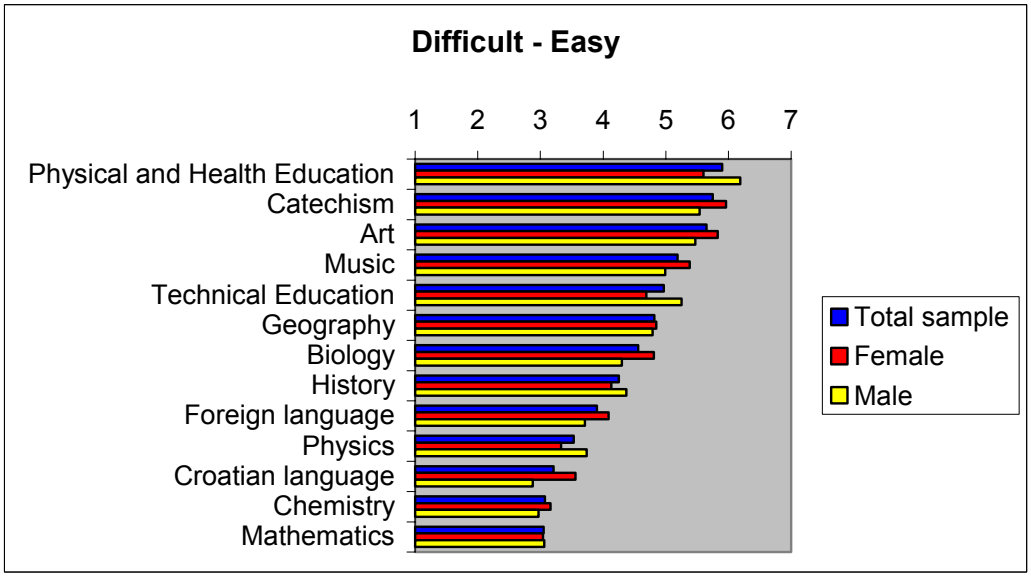
Note. School subjects are ranked according to the assessments of the total sample. The higher the result, the more interesting the subject is perceived.

Figure 11. Pupils' perceptions of school subjects according to the dimension «incomprehensible – comprehensible»



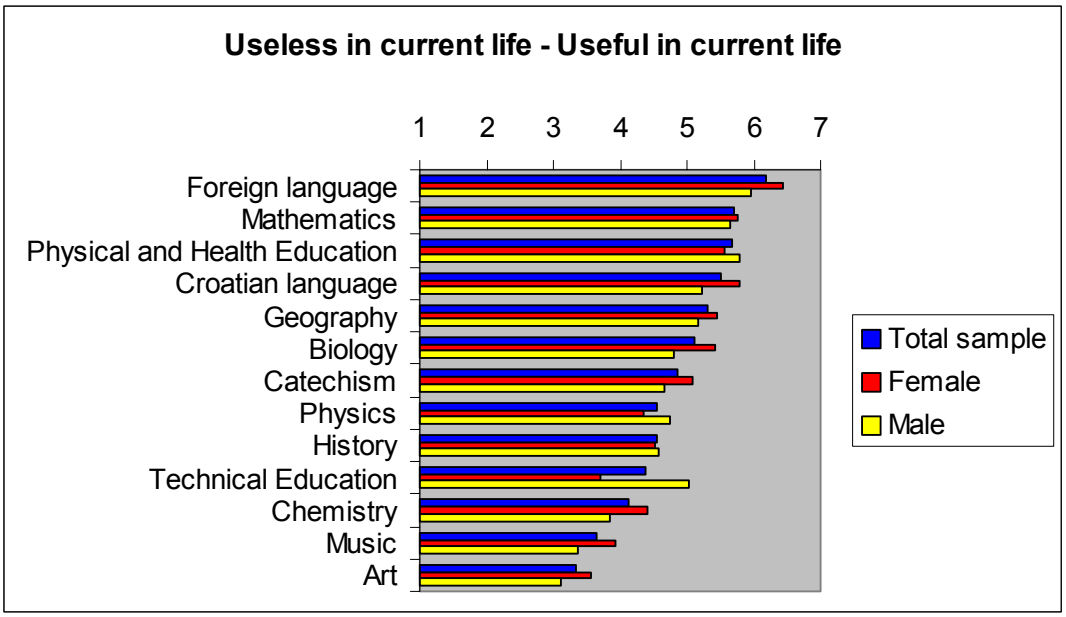
Note. School subjects are ranked according to the assessments of the total sample. The higher the result, the more comprehensible the subject is perceived.

Figure 12. Pupils' perceptions of school subjects according to the dimension «difficult-easy»



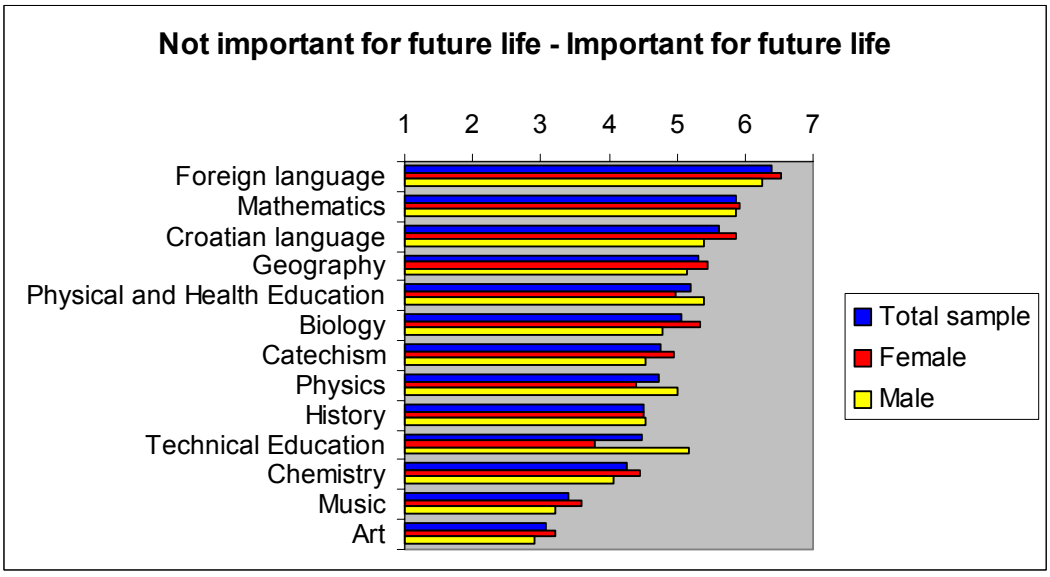
Note. School subjects are ranked according to the assessments of the total sample. The higher the result, the less difficult the subject is perceived.

Figure 13. Pupils' perceptions of school subjects according to the dimension «useless for current life – useful for current life»



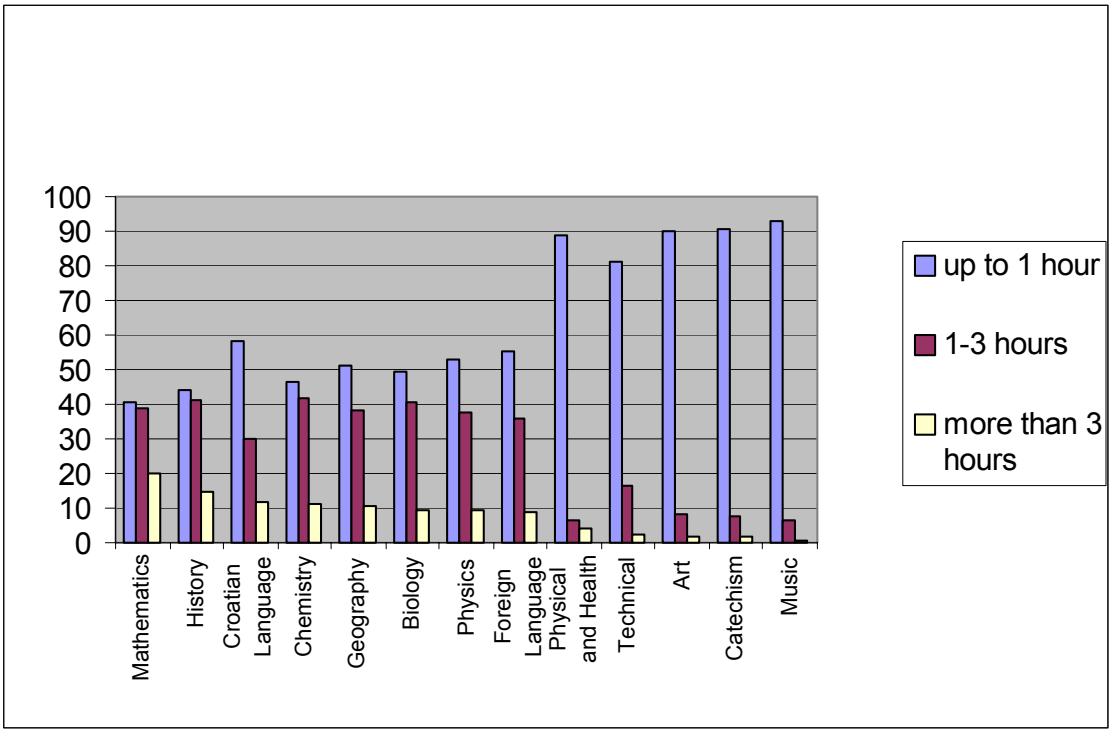
Note. School subjects are ranked according to the assessments of the total sample. The higher the result, the more useful the subject is perceived.

Figure 14. Pupils' perceptions of school subjects according to the dimension «unimportant for future life – important for future life»



Note. School subjects are ranked according to the assessments of the total sample. The higher the result, the more important the subject is perceived.

Figure 15. Pupils' perceptions of time spent on fulfilment of requirements for each subject per one week



Note. The subjects are ranked according to percentage of pupils choosing the third category ('more than 3 hours'), with Mathematics being the subject with the largest percentage of pupils studying it more than 3 hours weekly, and Music being the subject with the lowest percentage of pupils falling into that category.

Pupils' perceptions of the teaching process and attitudes towards the teachers and the school in general

Based on their evaluations of the ***frequency of different classroom activities,*** pupils most often participate in the teaching process trough various cooperative activities with other pupils. Thus, in lessons, they most often take part in discussions with other pupils or work together on particular tasks. Throughout lessons pupils quite often take a passive role– more than a half of them often or always listen and note what the teacher says, and over 40% often or always read the textbook material. Least of all they take part in activities that include various forms of individual expression, thus in lessons they least often make written comments, reports, observations etc. Very rarely they take part in fieldwork, make presentations of parts of the syllabus material or cooperate on design and production of an object, poster or picture. Individual initiative, such as asking questions or expression of particular ideas or thoughts, is also rare. Moreover, based on pupils' evaluations, activities that aim to develop problem-solving skills rarely take place in lessons.

Data referring to the ***attitude pupils have towards their teachers and the school in general*** show that two thirds of pupils think that on the whole they get on well with most of the teachers and that the teachers often or always encourage them to ask questions or express their own opinions. Only a slightly smaller percentage think that the teachers often or always strive to help them with mastering the subject matter, that they listen carefully to what the pupils are saying and that they will help them when necessary. Other forms of support appear to be less frequent, so pupils are divided in perceptions of support they receive from the teachers in terms of praise, additional explanations of materials covered, interest in pupils' welfare and fair treatment of all, as well as encouragement to seek further information.

Three quarters of pupils cite socialisation with peers as the main reason they like school, about 10% cite education and personal development as the main reason, whilst other reasons are marginally represented. The dominant reason for dislike of school of more than two-thirds pupils is the commitment to educational tasks, i.e. studying, lessons, tests and examinations. It is followed by two reasons cited by an almost equal percentage of pupils – a little under one-fifth – one of them being the teachers and the professional staff, and the other an excessive workload. Of other reasons cited the boredom that pupils experience during their time at school stands out, cited by a little over 10% of the pupils.

Use of IT at school

Our research findings show that ***of all places school is the last place where pupils use computers***. Thus about 40% of them never use computers at school, and more than 30% do that only rarely. Using Internet at school is even less frequent, with about 60% of pupils never getting to use it at school, and about 20% doing it rarely. Hence, the findings that about three-quarters of Croatian pupils never or rarely get to use computers at school, and even 80% either never use Internet at school or do so rarely, are especially alarming considering the fact that according to official information 79% percent of schools in Croatia have at least one Information Technology classroom with Internet access. Our research shows that in most cases this equipment is only rarely available to pupils, and that they are more likely to use computers and the Internet at home or elsewhere, than they are at school. Those pupils that take Information Technology as their elective subject (and it is not even offered in every primary school in Croatia) have evaluated it as extremely interesting, useful and important for the future, as well as very comprehensible. All of this indicates the need to make information technology education a compulsory part of the primary school curriculum, thus enabling pupils to master basic Information Technology skills at primary school age.

4. Headmasters

The basic sociodemographic and professional characteristics of the participating primary school headmasters indicate that they are predominantly male (61%), that most of them hold a university degree (60.2%), that they are a relatively ageing population (average age being 52, and 68.5% of them being over 48 years of age), and that, consequently, most of them have a considerable professional experience (average period of employment is 28 years). On the whole, the data depicting the age and the length of employment points to a conclusion that most headmasters probably have well established work routines that would make their adjustment to changes in the system of compulsory education more difficult.

The findings on the ***use of information technology*** and foreign languages indicate that the majority of the headmasters often use a personal computer and the Internet, and that they speak at least one foreign language. But it is also the case that 36% of the headmasters, which is also the proportion of headmasters over 55 years of age, on average rarely use information technology, and that a similar percentage of the headmasters (34%) do not speak a single foreign language.

When it comes to ***headmaster in-service training*** it is evident that the majority of the headmasters attended lectures, seminars and workshops during the 2001/2002 academic year. Those were most often organised by the Institute for Development of Education, and somewhat less often by various NGOs or the schools themselves. From the fact that 82.2% of the headmasters said that the number of in-service training opportunities available throughout the academic year should be increased, it is evident that the headmasters are aware of its importance. In this sense, in-service training sessions can act as an important factor in the process of adjustment of headmasters to the changes in the system of education.

As regards ***the scope of a headmaster's activities***, the findings show that administrative and organisational tasks form the greater part of the headmasters' work, whilst the pedagogical and professional tasks are relatively underrepresented (the ratio being 60.4% : 39.6%). When investigating a headmaster's administrative and organisational tasks we asked about their schools' potential for profit-making activities. The findings show that during the 2001/2002 academic year 69.5% of primary schools generated some profit from such activities. In this way the schools have increased their income by 10%. This was mainly achieved through donations (67.8% of schools supplemented their income from donations), whilst other forms of individual profit-making

activities – ranging from leasing the sports hall and classrooms to fundraising events –were represented in a smaller capacity (12.7% to 35.6%). However, there are schools that lack space and other conditions necessary for commercial lease of the buildings. This is indirectly confirmed by the headmasters' reply that the most frequent use of the funds raised is to equip the school with teaching aids (58.5% of replies), to supplement the maintenance of the school buildings and grounds (19.7%), and to cover the schools' running expenses and extracurricular activities (10.6%). These answers show that a considerable part of the profits generated from the aforementioned activities is used for maintenance of the essential infrastructure, i.e. to fill "the gaps" left over by the regular budget financing. Speaking of the main obstacles to such profit-generating activities, the interviewed headmasters most often accentuate the current legislative proceedings (48.6% of answers) by which they mean the excessive overheads on such activities (up to 60%) that the school has to hand over to the national and local budget. Such legislation has anything but a stimulating effect.

Table 3: Main obstacles to profit-generating activities

"What, in your opinion, is the greatest obstacle to increasing your school's profit-generating activities?"	**N**	**%**
Current legislative proceedings and system bureaucratisation	52	48.6
Insufficient educational infrastructure (space, equipment and professional expertise)	22	20.6
The school's environment (insufficient funding, insufficient cooperation with the local community and business)	20	18.7
Lack of effort on behalf of headmasters, teachers and pupils; organisational problems	8	7.5
Other	5	4.7
Total	**107**	**100**

NB: Percentages are calculated from the total number of answers given, N=107.

Legend:
N – number of answers
% – percentage

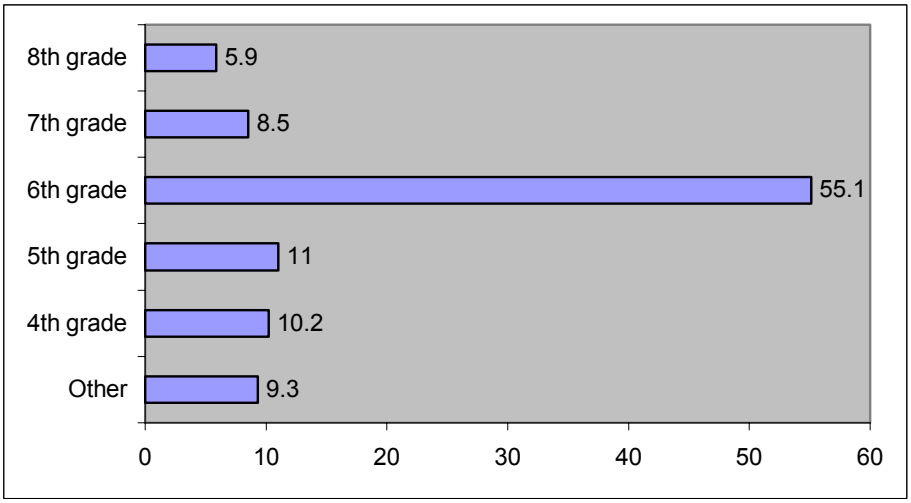
The findings on the ***pedagogical and professional activities*** show that the headmasters see themselves primarily as educators, despite having to dedicate most of their working hours (about 60% of those) to administrative and organisational tasks. When asked about the main obstacles to realisation of the yearly school work-plan most headmasters stress the excessive normativeness of the current syllabi, which has a negative effect on pupils' workload and the potential to adjust the teaching methods to specific circumstances (66.9%). On top of that, the headmasters cite the excessive bureaucratisation of the educational system (56.8%), want of professional support staff

(51.7%), insufficient funds (48.3%), lack of adequate equipment (47.5%) and lack of space (27.1%) as obstacles to better educational performance.

The findings concerning the evaluation of ***cooperation between the headmasters and the teaching staff*** show that both sides' evaluations are essentially positive, with a general tendency by the headmasters to present the said cooperation in a better light than the teaching staff does. The evaluation of different aspects of a headmaster's job shows that the participants are most displeased with bureaucratic obstacles within the educational system, whilst they are most pleased with interpersonal relationships and professional interaction within their school. Therefore, the gravity of the problems in education, as perceived by the headmasters, lies at the level of the educational system superstructure, not the individual schools. This indicates that eventual changes of the system of schooling will require an intensification of communication between the schools and the education authorities. The conclusion that, according to the headmasters, even raising the quality of work done in the schools depends primarily on increased support from the education authorities and other institutions related to education, follows from the findings that the headmasters see an improvement of material conditions, improvement of in-service training for teachers and headmasters, and an increase in the number of school professional staff as the changes that are most urgently required. The fact that the interpersonal interaction within a school is somewhat degraded in importance is a consequence of this view.

When speaking of ***the reform of the system of compulsory education***, the headmasters most frequently point out the necessity of a *curricular reform*; specifically, the changes of the subjects' contents and the teaching methods (88.1% of the participants think that the current syllabi ought to be changed); whilst the *structural changes*, primarily changes of the organisational structure and the formal duration of compulsory education, are supported by a mere minority of participants. To be more precise, 53.4% of the headmasters opted *to keep the existing eight-year model of compulsory education*, whilst 28.8% of the headmasters opted for the proposed nine-year model, and another 11.9% opted for the ten-year model. At the same time, 55.1% of the headmasters think that the differentiation according to interests and potentials of individual pupils should take place after 6th grade.

Figure 16: After which grade should pupils be differentiated (within compulsory education) according to their abilities and interests? (%)



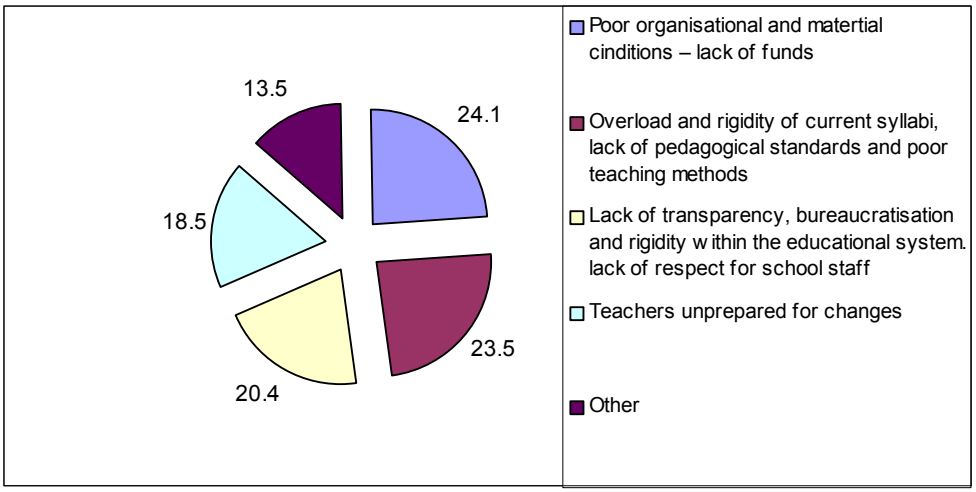
The headmasters' evaluations regarding ***the importance of various elements in a design of a better curriculum*** point towards the conclusion that the pending changes should encompass the whole of the educational process: starting with a clear determination of educational standards and desired outcomes; through modernisation of teaching methods, proportional increase of elective subjects, increased teacher autonomy, better cooperation with parents and the local community; all the way to securement of adequate material conditions. The lowest average score these and other evaluated elements attained on a scale of 1 to 5 is 4.15, which means that all of the key elements offered were given a relatively high score. In other words, that means that the current syllabi, in the headmasters' opinion, demand fundamental changes.

The participants have also evaluated ***the number of lessons per week currently allocated to individual subjects***. Majority of the headmasters thought that the number of lessons per week allocated to the following subjects *ought to be reduced*: Croatian Language and Literature (31.4%), Religious Education(28.8%) and Mathematics (24.6%). In the same vein the headmasters thought that the weekly number of lessons *should be increased* in the case of the following subjects: Art (39.8%), Physical and Health Education (38.1%), Music (33.1%) and Technical Education (31.4%). When asked, "Which of the following subjects *should not be taught* as part of the compulsory (primary) education?" the headmasters most frequently answered "Catechism" (23.7%), "Technical Education" (16.1%) and "Chemistry" (11%). At the same time, most of the participants would like to see Information Technology (46.4%) and additional foreign language lessons introduced into compulsory education. 23.7% of participants said they would like to see a second foreign language introduced as a compulsory subject whilst 13.6% of them said that foreign language lessons should

be made compulsory from the 1st grade. Out of the potential new subjects, the most wanted are the so-called 'soft subjects', i.e. Ethics (11%), and Civic Education and Education for Human Rights and Democracy (9.3%).

When asked about the advantages of changing the current syllabi, most headmasters stress the reduction in the overload of pupils with subject contents, and thus most headmasters emphasize the reduction of the said overload as the most pressing goal of the new syllabus frameworks. The headmasters expect most of ***the main obstacles to realisation of the curriculum reform*** to come from outside the school (inadequate material conditions, bureaucratisation, rigidity and lack of transparency within the educational system, shortcomings of the current syllabus etc.). The only exception to this rule is their opinion that the existing teaching staff is ill-prepared for any sort of change. The latter, among other things, indicates the importance of in-service training within the educational system. Even upon a cursory overview of the measures suggested as helpful for introduction of the new syllabi one notices recommendations for an increased autonomy of schools, which in this context means a greater commitment on behalf of the teachers and the headmasters, and in particular their active participation in the drafting of the new syllabi contents. On the whole, one is left with the impression that – along with the improvement of exiting material conditions – the headmasters see the changes of the current syllabi as a necessary step in any future reform of the system of compulsory education.

Figure 17: Main obstacles to realisation of the curriculum reform



III BASIC ELEMENTS OF THE PROPOSAL FOR WORK METHODOLOGY FOR THE DEVELOPMENT OF THE NATIONAL CURRICULUM FOR COMPULSORY EDUCATION IN CROATIA[1]

Research results indicate that the current syllabi present a significant problem for quality improvement of compulsory education and that they will not only need to be partially improved (a reduction of content overload and a content update, etc.), but replaced with a new national curriculum. The prominent horizontal and vertical incoherence of subject syllabi indicates the need for a development of clear and coherent national framework curriculum that can provide a framework for the design of subject syllabi that are internally coherent and consistent with other subjects (horizontally and vertically).

If we want to develop a national curriculum that will be in accordance with the developmental trends in Europe and at the same time appropriate for the Croatian educational and social context, solution should be sought for in the analyses of the current situation in Croatia as well as in other countries, especially the ones with notable educational performance. As seen from the analyses in most European countries, basic curriculum components are outlined in the *national framework curriculum*, which is based on the interdisciplinary approach and is oriented towards the learning outcomes or pupils' competences (*outcome or standard oriented curriculum*). Such concept of curriculum development cannot be achieved only by changing the syllabi, but entails a deeper intrusion into, and a different concept of, the educational process on the level of the system as a whole as well as on the school level. It also requires different approach to the *development* of the national curriculum and a different work methodology for it. As opposed to the current centralised and administrative approach, this approach and methodology are based on a *partnership* of all stakeholders of education and *intense consultations and communication with schools*. This section will present basic elements of currently used model of methodology for compulsory school national curriculum reform in European countries, especially transitional ones.

When planning the new national curriculum it should be taken into consideration that in Croatia there is no experience in or a culture of permanent curriculum development ("curriculum culture"),

[1] The Proposal contains basic procedures and institutional solutions to be undertaken in order to provide organisational, institutional, human-resources and financial prerequisites necessary for effective organisation of the process of development and implementation of the new national curriculum. In the given form, the Proposal does not represent a wholesome and developed work methodology for the development of the new national curriculum, but merely an overview of its basic elements. It is based on the consultations with international experts who visited the Centre as consultants: G. Bethell (Cambridge), A. Crisan (Buchurest) , M. O. Valente (Lisbon) , and Lj. Marjanovič (Ljubljana), as well as the curriculum documents of transitional and other European countries.

no specialised experts in the curriculum area nor independent institutions for its development and/or evaluation.

1. Proposal for the basic steps and organisational/institutional solutions

The proposal is based on the following beliefs: 1. Curriculum changes are part of and are based on the reform strategy of the educational system as a whole, which has been accepted on the national level (curriculum operationalises the general educational goals), 2. planning and implementation of the curriculum changes are based on the developmental concept of the curriculum (model of the national framework curriculum which is based on the concept of development and standards of learning outcomes); 3. changes should rely on those traditions of Croatian education which are still of value and may be restructured to satisfy current and future educational needs of the individual and the society; 4. changes should be in accordance with major European and world trends in the curriculum development.

1.1 Basic stages in the process of national curriculum development

1. Current situation and needs assessment in education and curriculum
2. Curriculum planning or process of curriculum development (design of the development strategy of the national curriculum, design of curriculum documents, guidelines etc.)
3. Implementation of the planned curriculum
4. Curriculum evaluation

1.2 Development of the National Framework Curriculum

One of the key tasks in the process of the curriculum system reform is the process of design of the National Framework Curriculum, which is the main component of the national curriculum and a conceptual basis for the design of other curriculum documents. The process of development of the National Framework Curriculum most commonly includes the following steps:

1. assessment and definition of the educational needs, goals (basic competences: knowledge, skills, attitudes and values) that curriculum changes should achieve (e.g. numeric literacy, computer literacy, development of entrepreneurship spirit, development of democratic attitudes, etc..)
2. formulation of goals, principles and learning outcomes so that they are *clear and measurable;* (they are defined on the basis of the identified needs, general goals and principles of change defined in the reform strategy of the educational system etc.)

3. development of the curriculum map that connects general goals and expected learning outcomes with specific curriculum areas (such as e.g. natural sciences, language, arts, social etc.);
4. identification, selection, and determination of order, level of incorporation and organisation of educational content (subject and thematic structure of educational content) based on defined curriculum goals and expected outcomes;
5. recommendations for teaching and learning strategies consistent with formulated curriculum goals (e.g. teamwork, projects, etc.);
6. preparation of instruments for the evaluation process, design of standards and criteria, evaluation procedure consistent with goals and expected outcomes;
7. identification of institutional conditions and necessary prerequisites for the implementation of curriculum reform (space, school equipment, etc.);
8. identification of professional competences of subject and classroom teachers necessary for the implementation of the curriculum;
9. identification, acquisition and allocation of resources necessary for successful implementation of the curriculum;
10. development of the syllabi for specific teaching areas and subjects based on the national framework curriculum (concept of integrated teaching).

Unlike current practice, the process of development of the national curriculum is not done through the work of the commissions and is not limited to the work of the commission formed by the Ministry of Education. *National curriculum is created through the* process of *intense and continuous consultations and participation of numerous subjects and educational stakeholders such as representatives of the educational policy makers, experts in curriculum development, teachers, pupils parents, school administrators, scientists from disciplines and areas whose content is taught, employers, local community representatives, union representatives, etc.* With such approach conditions are created not only for the development of the curriculum adequate to the needs of an individual and society but *support* for the proposed changes is secured.

1.3 Institutional (organisational) structure for the development of the national curriculum

Institutional structure includes representatives of all stakeholders in the process of education, and it is designed as to enable continuous and regular communication and coordination across all of its different levels.

It consists of:

1. Central commission for development of the curriculum or the National Curriculum Commission (NCC)

with the following responsibilities or scope of activities:

- definition of the curriculum policy on the national level
- organisation, monitoring and coordination of the long-term process of the development of the national curriculum
- design of the regulations for its own functioning
- formation of the commissions and coordination of the commissions for different educational areas
- ensuring of a conceptual and strategic framework for the design of long term and short term action plan of the commissions for educational areas and subject commissions
- development of the training programmes for the members of the commissions for educational areas and subject commissions
- development of the training programmes for the members of the implementation teams and subject and classroom teachers
-development of guidelines for designing the components of the national curriculum
- development of the National Framework Curriculum as the main component of the national curriculum
- ensuring that curriculum documents satisfy the demands and goals of the general educational policies and educational system as a whole
- ensuring the coherence of the curriculum with other components of educational system such as evaluation, education and in-service training of teachers, management and financing of education.
- approval and presentation of national curriculum components to the Minister of Education with the purpose if making the final decision for their implementation, etc.

The Commission is a permanent autonomous body directly responsible to the Minister of Education, consisting of highly competent experts and participants in the process of development and implementation of curriculum (e.g. Subject and classroom teachers, curriculum experts, scientists, etc.).

2. Commissions for Educational Areas or Curriculum Coordination Commissions

These are temporary operational bodies that monitor and coordinate activities of the development and evaluation of the curriculum within the frame prepared by the National Curriculum Commission. They are formed according to the number of curriculum areas (educational areas) that are also defined by the National Curriculum Commission.

They are formed according to the number of curriculum areas (educational areas) which are also defined by the NCC. Each one has a coordinator and members that represent school subjects that are a part of the educational area. With such structure of members, cohesion of the curriculum area and the system as a whole is ensured. They are responsible for the following:

- development of the work programme and schedule in line with the long term action plan of the NCC
- monitoring and coordination of the subject commissions that design the curricula of specific subjects within the frame of specific curriculum areas
- training of the subject commissions
- development of the action plan, as well as long-term and short term schedule for the subject commissions (further specification of goals, as well as specification of educational outcomes for particular educational areas, etc.)
- ensuring inter- and trans- disciplinary cohesion of the subject curriculum
- coordination of consultation process throughout the country, and different expertise of the proposed curricula
- analysis and evaluation of the proposed subject curriculum in the public arena, and suggestions to the subject commissions for their improvement
- presentations and proposals of new curricula to the NCC for approval,
- cooperation with the implementation teams, etc.

3. Subject Working Groups or Subject Commissions

They have a task to design the new subject curricula, and their number depends on the number of school subjects defined by the NCC. Among other experts, these groups should include classroom and subject teachers. Their responsibilities are:

- design of the action plan and strategy of the subject curricula
- formulation of the general concept of the school subject
- definition of general subject goals and its educational outcomes in line with the general goals of the curriculum and the educational area
- specification of goals and educational outcomes by levels of education and grades
- selection and organisation of educational content (compulsory, elective, thematic units, etc..)
- development of the guidelines for assessment of pupils
- development of methodological guidelines (e.g. suggestions for teachers)
- organisation of the consultation process (discussions and expertise) for the new curriculum of each subject and each grade in line with the procedure defined in cooperation with Commissions For Educational Areas.
- cooperation with the implementation teams, etc.

4. School teams

Except for the mentioned Commissions school teams should also be formed. School teams develop the school curricula that are the responsibility of the schools themselves. They can also initiate changes in the national curriculum.

Simultaneous to the development of the new curriculum, in-service training should be organised for subject and classroom teachers to foster its implementation.

5. Implementation teams

Except for the aforementioned institutional structure for the development of the national curriculum, it is necessary to form the organisational structure (implementation teams on national, regional and local levels) for the implementation of the new curriculum. Implementation teams should devote special attention to the education and training of subject/classroom teachers and headmasters for the implementation of the new curriculum.

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